

22847

UNITED STATES PATENT AND TRADEMARK OFFICE

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U.S. APPLICATION NUMBER NO.

FIRST NAMED APPLICANT

ATTY. DOCKET NO.

10/549,352

SYNGENTA BIOTECHNOLOGY, INC.

RESEARCH TRIANGLE PARK, NC 27709-2257

Caroline Rachel Drake

70237USPCT

20010204/01

PCT/GB04/01241

INTERNATIONAL APPLICATION NO.

I.A. FILING DATE

PRIORITY DATE

03/22/2004

03/24/2003

CONFIRMATION NO. 5103 371 FORMALITIES LETTER

OC000000022001219

Date Mailed: 01/17/2007

PATENT DEPARTMENT

P.O. BOX 12257

3054 CORNWALLIS ROAD

DUC: 2/17/07 SPONSE DOZNITED

NOTIFICATION OF DEFECTIVE RESPONSE

The following items have been submitted by the applicant or the IB to the United States Patent and Trademark Office as a Designated / Elected Office (37 CFR 1.495)

- Priority Document
- Copy of the International Application filed on 09/14/2005
- Copy of the International Search Report filed on 09/14/2005
- Copy of IPE Report filed on 09/14/2005
- Preliminary Amendments filed on 09/14/2005
- Biochemical Sequence Diskette filed on 09/14/2005
- Oath or Declaration filed on 07/03/2006
- Biochemical Sequence Listing filed on 11/13/2006
- U.S. Basic National Fees filed on 09/14/2005
- Priority Documents filed on 09/14/2005
- Specification filed on 09/14/2005
- Claims filed on 09/14/2005
- Abstracts filed on 09/14/2005
- Drawings filed on 09/14/2005
- Paper nucleotide sequence listings filed on 09/14/2005

RECEIVED

JAN 2 2 2007

SYNGENTA PATENT & LICENSING (RTP, NC)

Applicant's response filed 11/13/2006 is hereby acknowledged. The following requirements set forth in the NOTIFICATION of MISSING REQUIREMENTS mailed 05/02/2006 have not been completed.

• The paper or compact disc copy of the "Sequence Listing" is not the same as the computer readable form of the "Sequence Listing" as required by 37 CFR 1.821(e). Applicant must provide a substitute paper or compact disc copy of the "Sequence Listing", as well as an amendment specifically directing its entry into the application OR a substitute computer readable form (CRF) copy of the "Sequence Listing". These two items must be the same. Applicant must also provide a statement that the content of the sequence listing information recorded in computer readable form is identical to the written (on paper or compact disc) sequence listing and, where applicable, includes no new matter, as required by 37 CFR 1.821(e), 1.821(g), 1.825(b), or 1.825(d). If the effective filing date is on or after September 8, 2000, see the final rulemaking notice published in the Federal Register at 65 FR 54604 (September 8, 2000) and 1238 OG 145 (September 19, 2000).

Capy sent to

Applicant is required to complete the response within a time limit of ONE MONTH from the date of this Notification or within the time remaining in the response set forth in the Notification of Missing Requirements, whichever is the longer. No extension of this time limit may be granted under 37 CFR 1.13C, but the period for response set in the Notification of Missing Requirements may be extended under 37 CFR 1.136(a).

Applicant is cautioned that correction of the above items may cause the specification and drawings page count to exceed 100 pages. If the specification and drawings exceed 100 pages, applicant will need to submit the required application size fee.

For questions regarding compliance to 37 CFR 1.821-1.825 requirements, please contact:

- For Rules Interpretation, call (571) 272-0951
- For Patentin Software Program Help, call Patent EBC at 1-866-217-9197 or directly at 703-305-3028 / 703-308-6845 between the hours of 6 a.m. and 12 midnight, Monday through Friday, EST.
- Send e-mail correspondence for Patentin Software Program Help @ ebc@uspto.gov

Applicant is reminded that any communications to the United States Patent and Trademark Office must be mailed to the address given in the heading and include the U.S. application no. shown above (37 CFR 1.5)

Registered users of EFS-Web may alternatively submit their reply to this notice via EFS-Web. https://sportal.uspto.gov/authenticate/AuthenticateUserLocalEPF.html

For more information about EFS-Web please call the USPTO Electronic Business Center at **1-866-217-9197** or visit our website at http://www.uspto.gov/ebc.

If you are not using EFS-Web to submit your reply, you must include a copy of this notice.

ANITA D JOHNSON

Telephone: (703) 308-9140 EXT 226

PART 1 - ATTORNEY/APPLICANT COPY

U.S. APPLICATION NUMBER NO.	INTERNATIONAL APPLICATION NO.	ATTY. DOCKET NO.		
10/549,352	PCT/GB04/01241	70237USPCT		

FORM PCT/DO/EO/916 (371 Formalities Notice)

STIC Biotechnology Systems Branch

RAW SEQUENCE LISTING ERROR REPORT

The Biotechnology Systems Branch of the Scientific and Technical Information Center (STIC) detected errors when processing the following computer readable form:

Application Serial Number:

Source:

Date Processed by STIC:

THE ATTACHED PRINTOUT EXPLAINS DETECTED ERRORS.

PLEASE FORWARD THIS INFORMATION TO THE APPLICANT BY EITHER:

1) INCLUDING A COPY OF THIS PRINTOUT IN YOUR NEXT COMMUNICATION TO THE APPLICANT, WITH A NOTICE TO COMPLY or,

 TELEPHONING APPLICANT AND FAXING A COPY OF THIS PRINTOUT, WITH A NOTICE TO COMPLY

FOR CRF SUBMISSION AND PATENTIN SOFTWARE QUESTIONS, PLEASE CONTACT MARK SPENCER, TELEPHONE: 571-272-2510; FAX: 571-273-0221

TO REDUCE ERRORED SEQUENCE LISTINGS, PLEASE USE THE CHECKER VERSION 4.4.0 PROGRAM, ACCESSIBLE THROUGH THE U.S. PATENT AND TRADEMARK OFFICE WEBSITE. SEE BELOW FOR ADDRESS:

http://www.uspto.gov/web/offices/pac/checker/chkrnote.htm

Applicants submitting genetic sequence information electronically on diskette or CD-Rom should be aware that there is a possibility that the disk/CD-Rom may have been affected by treatment given to all incoming mail.

Please consider using alternate methods of submission for the disk/CD-Rom or replacement disk/CD-Rom.

Any reply including a sequence listing in electronic form should NOT be sent to the 20231 zip code address for the United States Patent and Trademark Office, and instead should be sent via the following to the indicated addresses:

- 1. EFS-Bio (http://www.uspto.gov/ebc/efs/downloads/documents.htm, EFS Submission User Manual ePAVE)
- 2. U.S. Postal Service: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450
- 3. Hand Carry, Federal Express, United Parcel Service, or other delivery service (EFFECTIVE 01/14/05):
 U.S. Patent and Trademark Office, Mail Stop Sequence, Customer Window, Randolph Building, 401 Dulany Street,
 Alexandria, VA 22314

Revised 01/10/06

Raw Sequence Listing Error Summary

	10160
ERROR DETECTED	SUGGESTED CORRECTION SERIAL NUMBER: 1015 99 352
ATTN: NEW RULES CASES:	PLEASE DISREGARD ENGLISH "ALPHA" HEADERS, WHICH WERE INSERTED BY PTO SOFTWARE
Wrapped Nucleics Wrapped Aminos	The number/text at the end of each line "wrapped" down to the next line. This may occur if your file was retrieved in a word processor after creating it. Please adjust your right margin to .3; this will prevent "wrapping."
2lnvalid Line Length	The rules require that a line not exceed 72 characters in length. This includes white spaces.
3Misaligned Amino Numbering	The numbering under each 5 th amino acid is misaligned. Do not use tab codes between numbers; use space characters, instead.
4Non-ASCII	The submitted file was not saved in ASCII(DOS) text, as required by the Sequence Rules. Please ensure your subsequent submission is saved in ASCII text.
5Variable Length	Sequence(s) contain n's or Xaa's representing more than one residue. Per Sequence Rules, each n or Xaa can only represent a single residue. Please present the maximum number of each residue having variable length and indicate in the <220>-<223> section that some may be missing.
6Patentin 2.0 "bug"	A "bug" in Patentln version 2.0 has caused the <220>-<223> section to be missing from amino acid sequences(s) Normally, Patentln would automatically generate this section from the previously coded nucleic acid sequence. Please manually copy the relevant <220>-<223> section to the subsequent amino acid sequence. This applies to the mandatory <220>-<223> sections for Artificial or Unknown sequences.
7Skipped Sequences (OLD RULES)	Sequence(s) missing. If intentional, please insert the following lines for each skipped sequence: (2) INFORMATION FOR SEQ ID NO:X: (insert SEQ ID NO where "X" is shown) (i) SEQUENCE CHARACTERISTICS: (Do not insert any subheadings under this heading) (xi) SEQUENCE DESCRIPTION:SEQ ID NO:X: (insert SEQ ID NO where "X" is shown) This sequence is intentionally skipped
	Please also adjust the "(ii) NUMBER OF SEQUENCES:" response to include the skipped sequences.
8Skipped Sequences (NEW RULES)	Sequence(s) missing. If intentional, please insert the following lines for each skipped sequence. <10> sequence id number <400> sequence id number 000
9Use of n's or Xaa's (NEW RULES)	Use of n's and/or Xaa's have been detected in the Sequence Listing. Per 1.823 of Sequence Rules, use of <220>-<223> is MANDATORY if n's or Xaa's are present. In <220> to <223> section, please explain location of n or Xaa, and which residue n or Xaa represents.
10Invalid <213> Response	Per 1.823 of Sequence Rules, the only valid <213> responses are: Unknown, Artificial Sequence, or scientific name (Genus/species). <220>-<223> section is required when <213> response is Unknown or is Artificial Sequence
Usc of <220>	Use of <220> to <223> is MANDATORY if <213> "Organism" response is "Artificial Sequence" or "Unknown." Please explain source of genetic material in <220> to <223> section. (See "Federal Register," 06/01/1998, Vol. 63, No. 104, pp. 29631-32) (Sec. 1.823 of Sequence Rules)
PatentIn 2.0 "bug"	Please do not use "Copy to Disk" function of Patentin version 2.0. This causes a corrupted file, resulting in missing mandatory numeric identifiers and responses (as indicated on raw sequence listing). Instead, please use "File Manager" or any other manual means to copy file to floppy disk.
13 Misuse of n/Xaa	"n" can only represent a single nucleotide; "Xaa" can only represent a single amino acid

AMC - Biotechnology Systems Branch - 09/09/2003



TEWD

RAW SEQUENCE LISTING PATENT APPLICATION: US/10/549,352A DATE: 11/28/2006 TIME: 14:28:06

Input Set : B:\70237USPCT Second Substitute Seq List.txt

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        PAINE, Jacqueline Ann Mary
        SHIPTON, Catherine Ann
 7 <120> TITLE OF INVENTION: Enhanced Accumulation of Carotenoids in Plants
9 <130> FILE REFERENCE: 70237USPCT
11 <140> CURRENT APPLICATION NUMBER: US 10/549,352A
12 <141> CURRENT FILING DATE: 2005-09-14
14 <150> PRIOR APPLICATION NUMBER: PCT/GB2004/001241
15 <151> PRIOR FILING DATE: 2004-03-24
                                                         Does Not Comply
17 <150> PRIOR APPLICATION NUMBER: US60/457,053
                                                         Corrected Diskette Neoded
18 <151> PRIOR FILING DATE: 2003-03-22
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                                                                         660
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                                                                         720
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61 aatteggett eeegggtaca gggtaaattt etagttttte teetteattt tettggttag
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RAW SEQUENCE LISTING

PATENT APPLICATION: US/10/549,352A

DATE: 11/28/2006 TIME: 14:28:06

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RAW SEQUENCE LISTING

PATENT APPLICATION: US/10/549,352A

DATE: 11/28/2006 TIMB: 14:28:06

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                                                                         5580
219 gcaaactagg ataaattatc gcgcgcggtg tcatctatgt tactagatcg
                          PIS explAIN source of genetic
                                                                   See item#!!

See item#!!

on error

120 Summary
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223 <211> LENGTH: 5630
224 <212> TYPE: DNA
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269 tctagggggc aatccgccgc agtggctcca ttcggcggcc tcaaatccat gactggattc
                                                                         1200
```

RAW SEQUENCE LISTING

PATENT APPLICATION: US/10/549,352A

DATE: 11/28/2006 TIME: 14:28:06

Input Set : B:\70237USPCT Second Substitute Seq List.txt

							-060
271	ccagtgaaga	aggtcaacac	tgacattact	tccattacaa	gcaatggtgg	aagagtaaag	1260
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287	ggtactgtcc	cttttttatc	qttcaqaqac	atgcttcgcg	ccgcacccca	actggcgaaa	1740
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205	acconcocat	tagttcaggg	gatgataaag	ctqtttcagg	accegggegg	cyaayccycy	1980
207	++asscarcs	gagtcagcca	tatqqaaacq	acaggaaaca	agattgaage	cacacaca	2040
200	gaggagggtc	acaggttcct	gacgcaagcc	gtcgcgtcaa	atgcagatgt	ggttcatace	2100
201	tategegace	tottaagcca	gcaccctgcc	qcqqttaagc	agtecaacaa	actiguagact	2160
202	saggggatga	gtaactctct	atttatactc	tattttggtt	tgaatcacca	Calgactag	2220
305	atagagasta	acacggtttg	tttcaaccca	cqttaccgcg	agctgattya	Cyaaaccccc	2280
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216	seceptite	attttcgcga	ccaqcttaat	qcctatcatg	gctcagcctt	ccccgcggag	
217	accettetta	CCCAGAGCGC	ctaatttcaa	ccccataacc	gcyataaaac	Caccaccac	2640 2700
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221		cagcaggttt	gatactagag	gatetqatti	gaggccacgc	aggeegaeee	2820
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225	aatraaaraa	aatataatat	tagaaaaqqa	aacaatatta	Lyaytaatyt	acamaca.	3240
227	taggaccaca	aaataaaaag	aacattttqa	tgagtcgtgt	attectegate	ageceeaaaa	3300
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2/1	cataatocaa	aataagatat	catcdatdac	atagcaacte	atycattata	ccacgooses	3420
242	ctcaacctat	tcattcctac	tcatctacat	aagtatcttc	agetaaatgt	Lagaacacaa	3480
345	acceataagt	cacqtttqat	gagtattagg	cgtgacacat	gacaaatcac	agactcaage	3540
247	aagat aaagc	aaaatgatgt	gtacataaaa	ctccagagct	atatgtcata	LLgCaaaaag	3600
240	aggagagett	ataagacaag	gcatgactca	caaaaattca	tttgcctttc	graccaaaaa	3660
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357	agatgcaaga	geetttatet	cactataaat	gcacgatgat	ttctcattgt	ttettacaaa	3900
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361	tetagttttt	ctccttcatt	ttcttqqtta	ggaccctttt	CCCCCCCCCC	ttttttgage	4020
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365	tagetttaac	toataatcto	attactttat	ttcgtgtgtc	tttgatcatc	ttgatagtta	4140
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RAW SEQUENCE LISTING DATE: 11/28/2006
PATENT APPLICATION: US/10/549,352A TIME: 14:28:06

Input Set : E:\70237USPCT Second Substitute Seq List.txt

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                                                                                  4320
375 cgtcaacccg gcgggagagg ccgtcgtctc gtccgagcag aaggtctacg acgtcgtgct
                                                                                  4380
377 caagcaggee geattgetea aacgeeaget gegeacgeeg gteetegaeg eeaggeeeca
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379 ggacatggac atgccacgca acgggctcaa ggaagcctac gaccgctgcg gcgagatctg
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391 aaggtataac aacttcgacg agctctacat gtactgctac tatgttgctg gaactgtcgg
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                                                                                  5280
                                                                                  5340
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413 aattacgtta agcatgtaat aattaacatg taatgcatga cgttatttat gagatgggtt
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415 tttatgatta gagtcccgca attatacatt taatacgcga tagaaaacaa aatatagcgc
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417 gcaaactagg ataaattatc gcgcgcggtg tcatctatgt tactagatcg
420 <210> SEQ ID NO: 3
421 <211> LENGTH: 5180
422 <212> TYPE: DNA
423 <213> ORGANISM: Artificial Sequence
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425 <220> FEATURE:
426 <223 > OTHER INFORMATION: 12422
428 <400> SEQUENCE: 3
429 gttaatcatg gtgtaggcaa cccaaataaa acaccaaaat atgcacaagg cagtttgttg
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431 tattctgtag tacagacaaa actaaaagta atgaaagaag atgtggtgtt agaaaaggaa
433 acaatatcat gagtaatgtg tgagcattat gggaccacga aataaaaaga acattttgat
                                                                                   180
                                                                                   240
435 gagtogtgta tootogatga gootoaaaag ttototoack coggataaga aaccottaag
437 caatgtgcaa agtttgcatt ctccactgac ataatgcaad ataagatatc atcgatgaca
                                                                                   300
439 tagcaactca tgcatcatat catgcctctc tcaacctatt\cattcctact catctacata
                                                                                   360
441 agtatettea getaaatgtt agaacataaa cecataagte acgtttgatg agtattagge
                                                                                   420
443 gtgacacatg acaaatcaca gactcaagca agataaagca aaatgatgtg tacataaaac
445 tccagagcta tatgtcatat tgcaaaaaga ggagagctta taagacaagg catgactcac
                                                                                   480
                                                                                   540
447 aaaaattcat ttgcctttcg tgtcaaaaag aggagggctt tacattatcc atgtcatatt
449 gcaaaagaaa gagagaaaga acaacacaat gctgcgtcaa ttatacatat ctgtatgtcc
451 atcattattc atccaccttt cgtgtaccac acttcatata ccatgagtca cttcatgtct
                                                                                   600
                                                                                   660
                                                                                   720
453 ggacattaac aaactetate ttaacattta gatgcaagag eetttatete actataaatg 455 cacgatgatt teteattgtt teteacaaaa agcatteagt teattagtee tacaacaacg
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461 teeatgaetg gatteeeagt gaagaaggte aacaetgaea dtaetteeat tacaageaat
                                                                                   960
                                                                                  1020
                                      ार्य हो enoug shown exist throughout
                                     the State Listing. Please check subsequent
                                     Coqualices for similar errors.
```

VERIFICATION SUMMARY

DATE: 11/28/2006

PATENT APPLICATION: US/10/549,352A

TIME: 14:28:07

Input Set : R:\70237USPCT Second Substitute Seq List.txt

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- 1) Response to Notification of Defective Response (3 pages total)
- 2) Copy of Notification of Defective Response dated January 17, 2007
- 3) Computer Readable Form of the Substitute Sequence Listing
- 4) Paper Copy of the Substitute Sequence Listing
- 5) Return Postcard

Signature

Sandra Freeland	
Name	
Scdra	FreeU